

SWEDEN

Notes from the intervention by Ambassador Ekéus on 21 June 1984
concerning criteria and definitions used in CD/RW/WP.52

1. The overriding criterion used when establishing which nuclear facilities should qualify for protection under the proposed treaty has been their potential to cause mass destruction through the release or dissemination of radioactive material, if attacked. Since radioactive material can occur in very small quantities it has been necessary to make an assumption as to what should be considered as mass destruction in this case.
2. Thus for the purpose of the RW-treaty the amount of radioactive material, uniformly spread out over a specific area and sufficient to cause serious injuries to anyone staying there for more than a short time is assumed to be equivalent to mass destruction. The initial dose rate with this effect is suggested to be one Gray (Gy) per hour, and the size of the area to be one square kilometre.
3. It has been calculated that the amount of radioactive material with an initial disintegration rate in the order of 10^{18} Bq could cause the dose rate mentioned above to unprotected human beings, and that enough radioactive material to cause the same dose rate could over time be produced in a nuclear reactor operating with a thermal effect in the order of 10 Megawatt.

In summary, from the basic assumption that the initial dose rate of one Gray (Gy) per hour over one square kilometre would be equivalent to mass destruction there is a direct link in rough numerical terms to the definitions of the nuclear facilities to be covered by the provisions of the RW-treaty.

Gray (Gy) is the unit of the dose of radiation measured in terms of the energy of the ionizing radiation absorbed in human tissue. (A former unit of dose still used in some publications is the rad, 1 Gy = 100 rad. One Gy also corresponds to the absorption of 1 joule per kilogram of tissue).